Remarks

The Final Office Action mailed August 13, 2004 has been received and reviewed. Claims 1, 24 and 58 have been amended. Therefore, claims 1, 6-24, 27 and 29-58 are pending in the present application. Reconsideration and withdrawal of the rejections are respectfully requested in view of the amendments and remarks provided herein.

Summary of Telephone Interview

A telephone interview between Mark Gebhardt and the Examiner was conducted on August 10, 2004 to discuss the consideration of Applicants' response to the Final Office Action dated 10 February 2004. The interview resulted in the Examiner issuing a second Final Office Action and providing Mark Gebhardt with an Examiner-Initiated Interview Summary which stated that "A Final Office Action has been sent out on 08/10/04". In view thereof, it is assumed that the finality of Final Office Action mailed 10 February 2004 is considered to be withdrawn in view of the now pending Final Office Action.

If the Examiner does not agree with Applicants' position, a telephonic interview is requested with respect to the above-identified application.

Premature Final Office Action - Withdrawal of Finality Requested

A Request for Continuation application was filed 9 July 2003 with an amendment to claims that was not previously entered based on the Examiner's allegation that the amendment included matter that gave rise to new issues. An Office Action was issued 15 August 2003 with a new ground of rejection based on Michener et al. in view of Harrow et al. (and also Michener et al. in view of Harrow et al. and further in view of Schaefer et al. and van Weele et al.). A response was filed without amendment to the claims on 17 November 2003. The Examiner then issued a Final Office Action on 10 February 2004 restating the same rejections as given in the Office Action of 15 August 2003. Applicant then responded to the Final Office Action without any amendment to the claims on 12 April 2004.

As stated above, a telephone interview between Mark Gebhardt and the Examiner was

conducted on August 10, 2004 to discuss the consideration of Applicants' response to the Final Office Action dated 10 February 2004. The interview resulted in the Examiner issuing a second Final Office Action dated 13 August 2004 that provided a new rejection based on Harrow et al. (and also Harrow et al. in view of Schaefer et al. and van Weele et al.).

As stated in M.P.E.P. § 706.07(a), "second or any subsequent actions on the merits shall be final, except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims nor based on information submitted in an information disclosure statement filed during the period set forth in 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p)." As no such amendment of the claims was made, nor was such an information disclosure statement filed, the finality of this pending "new" rejection is premature. Reconsideration of such finality and withdrawal thereof is respectfully requested.

Drawings

Applicants continue to respectfully request consideration and approval of amended Figures 3 and 11 submitted with Applicants' response to the 8 November 2001 Office Action.

The 35 U.S.C. §102 Rejection

The Examiner has rejected claims 1, 6, 9-10, 16, 24, 29, 33, 41, 43 and 58 under 35 U.S.C. §102(b) as being anticipated by Harrow et al. (U.S. Patent No. 5,375,199). Applicants respectfully traverse this rejection. However, to move the case to issuance, Applicants have amended claims 1, 24, and 58.

For a claim to be anticipated under 35 U.S.C. § 102(b), each and every element of the claim must be found in a single prior art reference. *See* M.P.E.P. § 2131.

In each of independent claims 1, 24, and 58, Applicants teach a graphical user interface and/or method for providing a graphical user interface to a user for a process that is operable under control of one or more process variables. Generally, the graphical user interface includes a scale extending along a gauge axis and one or more bars extending along the gauge axis with the scale. Each bar is representative of a set of high and low process limit values for a process

variable. For example, as described in claim 1, the one or more bars extending along the gauge axis include:

a first bar extending along the gauge axis, wherein a first end of the first bar is representative of a user set engineering hard high limit for the process variable and a second end of the first bar is representative of a user set engineering hard low limit for the process variable, wherein the first end and second end of the first bar representative of the engineering hard high and hard low limits define a range in which operator set high and low limits are set; and

a second bar extending along the gauge axis, wherein a first end of the second bar is representative of the operator set high limit for the process variable and a second end of the second bar is representative of the operator set low limit for the process variable, wherein the first end and second end of the second bar representative of the operator set high and low limits define a range in which the process is free to operate. In addition, as amended, each of the operator set high and low limits are adjustable so as to exert influence on the process.

Further, generally, such independent claims include a graphical shape displayed along the gauge axis representative of a current value of the process variable. Independent claims 24 and 58 include similar limitations.

It is to be noted that certain terms used in the claims have been further defined by previous amendments as requested by the Examiner even though such terms had already been defined in the specification. For example, the following description is given in the specification for various "limit" terms:

> As used herein, engineering physical limit values refer to limit values that define the physical limits of a piece of equipment or instrumentation. They represent the widest possible range of meaningful quantification of a process variable. For example, there may be engineering physical limits to measurements that a sensor may be able to provide.
>
> As used herein, engineering hard limit values are those limit values set by a user, particularly a control engineer, to establish a range over which an operator or another user can safely set operator set limit values.
>
> As used herein, operator set limit values are limit values through which operators exert influence on the controller 14. Such limits establish the range in which the control solution is free to act when it is afforded sufficient degrees of freedom.
>
> Lastly, as used herein, optimization soft limits, or otherwise referred to herein as

delta soft bands, are pseudo limits describing an offset within the operator set limits that the optimization calculations will attempt to respect.

Applicants respectfully submit that Harrow fails to describe all the claim limitations of the independent claims 1, 24, and 58. For example, Harrow fails to describe displaying a first bar, wherein the ends of the first bar are representative of a first pair of high and low limit elements representative of user set engineering hard high and low limit values for the corresponding process variable that define a range in which operator set high and low limit values are set and a second pair of high and low limit elements representative of operator set high and low limit values for the corresponding process variable (i.e., shown through use of a second bar extending along the gauge axis) which define a range in which the process is free to operate (i.e., each of the operator set high and low limit values being adjustable so as to exert influence on the process), as recited in each of such claims.

Harrow recites a system monitoring device that displays historical or real time information and also allows a user to set, via direct manipulation, a range of values for use by the system. For example, a user interface allows the user to expand the value of an interactive icon 200. The exemplary interactive icon 200 is illustrated in its expanded state on the graph in FIG. 11B where the user can move the range of values along the y-axis by dragging the slider 202 of the interactive icon 200 to change values associated with the interactive icon 200. Harrow indicates that the interactive icon 200 allows a user to set a range of values in relationship to graphically presented data. (Col. 17, line 68 – Col. 18, line 2). In its default condition, the indicator bar 204 of the interactive icon supplies a single crossing threshold represented by a thin line (Col. 18, lines 12-16) for a variable (i.e., CRC errors per hour). Thus, the indicator bar 204 provides a single limit value for a particular variable, i.e., CRC errors per hour.

According to Harrow, a user can expand the value of the interactive icon 200 (i.e., the indicator bar 204) into a range of values so that the single limit value for the variable (i.e., CRC errors per hour) is a range designated for control of an alarm. For example, 206 in Figure 13A of

Harrow indicates that "46" is the value at which "SOUND ALARM WHEN VALUE RISES ABOVE", and 208 in Figure 13A indicates that "26" is the value at which "CANCEL ALARM WHEN VALUE FALLS BELOW". As such, the values shown at 206 and 208 of Harrow represent an expanded range of values for a single operator limit value used to provide alarm function. In other words, Harrow provides an alarm range at the upper operator limit for the variable being monitored (e.g., CRC errors per hour). Harrow does not show "operator set high and low limit values."

Further, and in addition, Harrow does not describe operator set high and low limit values that are adjustable so as to each exert influence on the process. The limits discussed in Harrow are clearly only focused on a single operator limit (i.e., a high limit designated as line 204) for a variable (e.g., CRC errors per hour). A user can provide a range at this high limit to control some other activity (i.e., an alarm) through the designation of several values (i.e., 206 and 208) at the single operator limit, but there is no description of operator set high and low limit values that establish the range in which the control solution is free to act when it is afforded sufficient degrees of freedom. In other words, the values in Harrow which according to the Examiner teach the operator set high and low limit values are only pertinent to a single operator limit and an alarm range associated therewith, and not operator set high and low limit values that are each adjustable so as to each exert influence on the process that is operable under control of process variables.

Yet further, the Examiner alleges that the gauge in Harrow et al. from 0 to 80 is considered the first pair of high and low limit elements representative of engineering hard high and low limit values and the slider alarm is a second bar that provides a second pair of high and low limit elements representative of operator set high and low limit values for a corresponding process variable. However, the gauge from 0 to 80 is not in and of itself a "bar extending along the gauge axis," as it is only a scale. There is no additional bar that extends along the gauge axis that is representative of engineering hard high and low limit values. The scale cannot be considered a bar extending along the gauge axis because there is also a scale recited in the rejected claim. Otherwise, there is no meaning being given to the term "bar" as used in the

claim. As amended, the claims clearly provide both a first bar and separate scale along the gauge axis.

Still further, contrary to Harrow, the present invention provides the second pair of high and low limit elements representative of operator set high and low limit values. As indicated in the claims as amended, such operator set limit values are limit values through which operators exert influence on the controller. Such limits establish the range in which the control solution is free to act when it is afforded sufficient degrees of freedom. The operator set limit values fall within a range established by the user set engineering hard limit values. In other words, the engineering hard limit values are those limit values set by a user (as described in the claims as amended), particularly a control engineer, to establish a range over which an operator or another user can safely set operator set limit values.

In addition to not showing the operator set high and low limit values that are each adjustable so as to each exert influence on the process, Harrow does not show the user set engineering hard limit values. The Examiner equates the values 0 and 80 of the scale shown in Figure 11B to the engineering hard limit values described in the claims. This is clearly inappropriate. The values 0 and 80 on the scale have not been described by Harrow in any manner such that they can be equated with engineering hard limit values that establish a range over which an operator or another user can safely set operator set limit values (e.g., engineering hard limit values set by a user, particularly a control engineer). The 0 and 80 are merely part of a scale and are not functional limit values. They are not indicated as being a limit on anything, upper or lower, for a process variable.

As such, Harrow et al. fails to describe various elements of the pending claims as recited in each independent claim.

Further, with respect to claim 58 (and also claims 6 and 29), claim 58 recites that "the second bar extends along the gauge axis within the first bar representative of the engineering hard high and low limits for the process variable." Harrow et al. does not describe this element.

First, as indicated above, the gauge in Harrow et al. from 0 to 80 is not in and of itself a "bar extending along the gauge axis," as it is only a scale. There is no additional bar that extends

along the gauge axis with the scale that is representative of engineering hard high and low limit values.

Second, clearly, there is no second bar that extends along the gauge axis within the first bar. In other words, there are not two bars that extend along the same gauge axis, one within the other. Only a scale from 0 to 80 is shown with the slider bar along the gauge axis. There is no other bar that the slider bar is within and no other bar that is within the slider bar. As such, Harrow et al. does not describe a second bar that extends along the gauge axis within the first bar representative of the engineering hard high and low limits for the process variable" (i.e., both bars extending along the same axis).

Therefore, for at least the reasons set forth above, the cited references do not show all the claim elements and, as such, the pending independent claims 1, 24, and 58 are not anticipated by Harrow et al.

With respect to dependent claims 6, 9-10, 29, 33, 41, and 43, Applicants respectfully submit that these claims are also patentable as further limitations of respective patentable base independent claims from which they directly or indirectly depend.

Applicants respectfully request reconsideration and allowance of claims 1, 6, 9-10, 16, 24, 29, 33, 41, 43 and 58.

The 35 U.S.C. §103 Rejection

The Examiner rejected claims 11-15, 17-19, 34-40, 42 and 44-45 under 35 U.S.C. §103(a) as being unpatentable over Harrow et al. (U.S. Patent No. 5,375,199) and further in view of Schaefer et al. (U.S. Patent No. 4,675,147). The Examiner further rejected claims 20-23 and 46-48 as being unpatentable over Harrow et al. (U.S. Patent No. 5,375,199), and further in view of van Weele et al. (U.S. Patent No. 5,631,825).

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success.

Finally, the prior art references must teach or suggest all the claim limitations.

Applicants respectfully traverse the rejections and repeat the arguments presented above given for the independent claims from which these claims directly or indirectly depend. In other words, the cited references do not teach or suggest all the claim elements and, as such, the claims are not obvious in view of the cited references. As discussed above, Harrow et al. does not describe all the claim limitations, and further Schaefer et al. and van Weele et al. do not cure the deficiencies of Harrow et al. Further, such claims are also patentable in view of their own limitations.

Further, in addition to the cited references failing to teach or suggest all of the claim limitations as clearly set forth above, there is no teaching or suggestion in either of the references that would motivate one skilled in the art to make a modification to Harrow using the teachings of van Weele et al. or Schaefer et al. as alleged by the Examiner so as to arrive at the present invention. The Examiner alleges that it would have been obvious to one skilled in the art, having the teachings of Harrow and Schaefer et al. before them to modify Harrow "in order to be able for user see the setting points clearly." The Examiner further alleges that it would have been obvious to one skilled in the art, having the teachings of Harrow and van Weele et al. before them to modify Harrow "in order to provide data input means for selecting one of a set of preselected process primitives, and means for indicating a value for the selected process primitive and substituting the input value for that primitive as the value to be monitored and controlled by the PPC."

However, as explained above, the references do not show various elements of such claims, e.g., bar with ends representative of engineering hard high and low limits elements." As such, no modification would provide the present invention as described in the accompanying claims and there is no motivation to perform such a modification.

Applicants respectfully request reconsideration and allowance of claims 11-15, 17-19, 20-23, 34-40, 42, 44-45, and 46-48.

Allowable Subject Matter

Applicants acknowledge the Examiner's indication that claims 49-57 are in allowable condition and that claims 7-8, 27, and 30-32 are objected to as being dependent on a rejected base claim, but that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, Applicants have not rewritten the objected to claims in independent form as it is believed that the claims upon which they depend are also in allowable condition. However, Applicants reserve the right to rewrite such claims at a later date.

Summary

It is respectfully submitted that the pending claims are in condition for allowance and notification to that effect is respectfully requested. The Examiner is invited to contact Applicants' Representatives, at the below-listed telephone number, if it is believed that prosecution of this application may be assisted thereby.

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CERTIFICATE UNDER 37 CFR §1.8:
The undersigned hereby certifies that the Transmittal Letter and the paper(s), as described hereinabove, are being transmitted by facsimile in accordance with 37 CFR §1.6(d) to the Patent and Trademark Office, addressed to Commissioner for Patents, Box AF, P.O. Box 1450, Alexandria, VA 22313-1450, on this 8 day of OCTOBER, 2004, at 8:15 A.M. (Central Time).

By: Sandy Truehart
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